

ABSTRACT

By using a high purity target as a target, using a single gas, argon (Ar), as a sputtering gas, setting the substrate temperature at 300°C or less, setting the sputtering power from 1 kW to 9 kW, and setting the sputtering gas pressure from 1.0 Pa to 3.0 Pa, the film stress of a film is made from -1×10^{10} dyn/cm² to 1×10^{10} dyn/cm². By thus using a conducting film in which the amount of sodium contained within the film is equal to or less than 0.03 ppm, preferably equal to or less than 0.01 ppm, and having a low electrical resistivity (equal to or less than 40 $\mu\Omega \cdot \text{cm}$), as a gate wiring material and a material for other wirings of a TFT, the operating performance and the reliability of a semiconductor device provided with the TFT can be increased.